

URINE TOXIC METALS



LAB#: U090529-0389-1

PATIENT: [REDACTED]

SEX: Female

AGE: 62

CLIENT#: 30723

DOCTOR: Crystal Charest, ND

2278 King George Hwy
Miramichi, NB E1V 6N6 CANADA

POTENTIALLY TOXIC METALS

METALS	RESULT µg/g CREAT	REFERENCE RANGE	WITHIN REFERENCE RANGE	ELEVATED	VERY ELEVATED
Aluminum	< dl	< 35			
Antimony	< dl	< 1			
Arsenic	30	< 130	██████████		
Beryllium	< dl	< 0.5			
Bismuth	1	< 15	██████████		
Cadmium	0.3	< 2	██████████		
Lead	1.6	< 5	██████████		
Mercury	1.2	< 4	██████████		
Nickel	4.1	< 12	██████████		
Platinum	< dl	< 1			
Thallium	< dl	< 0.8			
Thorium	< dl	< 0.3			
Tin	0.7	< 10	██████████		
Tungsten	< dl	< 1			
Uranium	< dl	< 0.2			

CREATININE

	RESULT mg/dL	REFERENCE RANGE	2SD LOW	1SD LOW	MEAN	1SD HIGH	2SD HIGH
Creatinine	45	35 - 225					

SPECIMEN DATA

Comments:

Date Collected: 5/27/2009

Method: ICP-MS

Collection Period: timed: 6 hours

Date Received: 5/29/2009

<dl: less than detection limit

Volume:

Date Completed: 5/30/2009

Provoking Agent: DMPS IV

Provocation: POST PROVOCATIVE

Toxic metals are reported as µg/g creatinine to account for urine dilution variations. Reference ranges are representative of a healthy population under non-challenge or non-provoked conditions. No safe reference levels for toxic metals have been established.

V10.00

URINE TOXIC METALS



LAB #: U110407-2360-1

PATIENT: [REDACTED]

ID: [REDACTED]

SEX: Female

AGE: 64

CLIENT#: 30723

DOCTOR: Crystal Charest, ND

2278 King George Hwy

Miramichi, NB E1V 6N6 CANADA

POTENTIALLY TOXIC METALS

METALS	RESULT µg/g creat	REFERENCE RANGE	WITHIN REFERENCE RANGE	ELEVATED	VERY ELEVATED
Aluminum	110	< 35	[REDACTED]		
Antimony	< dl	< 0.4			
Arsenic	38	< 117	[REDACTED]		
Barium	1.7	< 7	[REDACTED]		
Beryllium	< dl	< 1			
Bismuth	< dl	< 15			
Cadmium	3.1	< 1	[REDACTED]		
Cesium	6.7	< 10	[REDACTED]		
Gadolinium	0.3	< 0.4	[REDACTED]		
Lead	48	< 2	[REDACTED]		
Mercury	4.9	< 4	[REDACTED]		
Nickel	15	< 12	[REDACTED]		
Palladium	< dl	< 0.3			
Platinum	< dl	< 1			
Tellurium	< dl	< 0.8			
Thallium	0.7	< 0.5	[REDACTED]		
Thorium	< dl	< 0.03			
Tin	2.5	< 10	[REDACTED]		
Titanium	N/A	< 15			
Tungsten	0.1	< 0.4	[REDACTED]		
Uranium	< dl	< 0.04			

URINE CREATININE

	RESULT mg/dL	REFERENCE RANGE	2SD LOW	1SD LOW	MEAN	1SD HIGH	2SD HIGH
Creatinine	71.2	35 - 225			[REDACTED]		

SPECIMEN DATA

Comments:

Date Collected: 4/5/2011

Date Received: 4/7/2011

Date Completed: 4/9/2011

Method: ICP-MS

pH upon receipt: Acceptable

<dl: less than detection limit

Provoking Agent: EDTA DMPS

Collection Period: timed: 6 hours

Volume:

Provocation: POST PROVOCATIVE

Toxic metals are reported as µg/g creatinine to account for urine dilution variations. Reference ranges are representative of a healthy population under non-challenge or non-provoked conditions. No safe reference levels for toxic metals have been established.

V12

URINE TOXIC METALS



LAB#: U090807-2321-1

PATIENT: [REDACTED]

SEX: Male

AGE: 62

CLIENT#: 30723

DOCTOR: Crystal Charest, ND

2278 King George Hwy
Miramichi, NB E1V 6N6 CANADA

POTENTIALLY TOXIC METALS

METALS	RESULT µg/g CREAT	REFERENCE RANGE	WITHIN REFERENCE RANGE	ELEVATED	VERY ELEVATED
Aluminum	16	< 25			
Antimony	< dl	< 0.6			
Arsenic	27	< 120			
Beryllium	< dl	< 0.5			
Bismuth	< dl	< 10			
Cadmium	1.3	< 2			
Lead	23	< 5			
Mercury	< dl	< 3			
Nickel	6.6	< 10			
Platinum	< dl	< 1			
Thallium	0.09	< 0.7			
Thorium	< dl	< 0.3			
Tin	0.3	< 9			
Tungsten	0.04	< 0.7			
Uranium	< dl	< 0.1			

CREATININE

	RESULT mg/dL	REFERENCE RANGE	2SD LOW	1SD LOW	MEAN	1SD HIGH	2SD HIGH
Creatinine	90.0	45 - 225					

SPECIMEN DATA

Comments:

Date Collected: 8/4/2009

Method: ICP-MS

Collection Period: timed: 6 hours

Date Received: 8/7/2009

<dl: less than detection limit

Volume:

Date Completed: 8/11/2009

Provoking Agent: EDTA

Provocation: POST PROVOCATIVE

Toxic metals are reported as µg/g creatinine to account for urine dilution variations. Reference ranges are representative of a healthy population under non-challenge or non-provoked conditions. No safe reference levels for toxic metals have been established.

V10.00

URINE TOXIC METALS



LAB #: U110407-2397-1

PATIENT:

ID:

SEX: Male

AGE: 63

CLIENT#: 30723

DOCTOR: Crystal Charest, ND

2278 King George Hwy
Miramichi, NB E1V 6N6 CANADA

POTENTIALLY TOXIC METALS

METALS	RESULT µg/g creat	REFERENCE RANGE	WITHIN REFERENCE RANGE	ELEVATED	VERY ELEVATED
Aluminum	52	< 25			
Antimony	< dl	< 0.3			
Arsenic	100	< 108			
Barium	1.8	< 7			
Beryllium	< dl	< 1			
Bismuth	< dl	< 10			
Cadmium	1.4	< 0.8			
Cesium	2.3	< 9			
Gadolinium	2	< 0.3			
Lead	46	< 2			
Mercury	2.1	< 3			
Nickel	9	< 10			
Palladium	< dl	< 0.3			
Platinum	< dl	< 1			
Tellurium	< dl	< 0.8			
Thallium	0.3	< 0.5			
Thorium	< dl	< 0.03			
Tin	0.4	< 9			
Titanium	N/A	< 15			
Tungsten	< dl	< 0.4			
Uranium	< dl	< 0.03			

URINE CREATININE

	RESULT mg/dL	REFERENCE RANGE	2SD LOW	1SD LOW	MEAN	1SD HIGH	2SD HIGH
Creatinine	74.7	45 - 225					

SPECIMEN DATA

Comments:

Date Collected: 4/5/2011

Date Received: 4/7/2011

Date Completed: 4/9/2011

Method: ICP-MS

pH upon receipt: Acceptable

<dl: less than detection limit

Provoking Agent: EDTA DMSA

Collection Period: timed: 6 hours

Volume:

Provocation: POST PROVOCATIVE

Toxic metals are reported as µg/g creatinine to account for urine dilution variations. Reference ranges are representative of a healthy population under non-challenge or non-provoked conditions. No safe reference levels for toxic metals have been established.

V12

C.O.C.: M59361

REPORT No. B10-14858

Report To:

Private - Moncton

Caduceon Environmental Laboratories

150 Lutz Street

Moncton, New Brunswick, E1C 5E9

Tel: 506-855-6472

Fax: 506-855-8294

Attention:

DATE RECEIVED: 01-Jun-10

JOB/PROJECT NO.:

DATE REPORTED: 08-Jun-10

P.O. NUMBER:

SAMPLE MATRIX: Drinking Water

WATERWORKS NO.

			Client I.D.:			919 Route 905, Pollett River, NB B10-14858-1 01-Jun-10		
			Sample I.D.:					
			Date Collected:					
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed	CDWG Guideline			
Total Coliform	cfu/100ml	1	MOE E3407	02-Jun-10/M	0	< 1		
E coli	cfu/100ml	1	MOE E3407	02-Jun-10/M	0	< 1		
Background	cfu/100ml	1	MOE E3407	02-Jun-10/M		< 1		
pH	pH Units		SM4300H+	04-Jun-10/M	6.5-8.5	6.46		
Conductivity	µmho/cm	2	SM2513	04-Jun-10/M		37		
Alkalinity (as CaCO3)	mg/L	5	SM 2320	04-Jun-10/O		7		
Carbonate (as CaCO3)	mg/L	5	SM 2320	04-Jun-10/O		< 5		
Bicarbonate(as CaCO3)	mg/L	5	SM 2320	04-Jun-10/O		7		
Turbidity	NTU	0.05	SM2130B	04-Jun-10/M	1.0	0.65		
Colour	TCU	2	SM 2120C	04-Jun-10/M	15	3		
Ammonia (N)-Total	mg/L	0.01	EPA 350.2	07-Jun-10/O		< 0.01		
o-Phosphate (P)	mg/L	0.01	EPA 365.1	07-Jun-10/O		< 0.01		
Fluoride	mg/L	0.1	EPA 300.0	02-Jun-10/O	1.5	< 0.1		
Nitrite (N)	mg/L	0.1	EPA 300.0	02-Jun-10/O	1	< 0.1		
Nitrate (N)	mg/L	0.1	EPA 300.0	02-Jun-10/O	10	0.3		
Chloride	mg/L	0.5	EPA 300.0	02-Jun-10/O	250	3.2		
Sulphate	mg/L	1	EPA 300.0	02-Jun-10/O	500	3		
Hardness (as CaCO3)	mg/L	1	SM 3120	02-Jun-10/O		8		
Calcium	mg/L	0.02	SM 3120	02-Jun-10/O		2.15		
Magnesium	mg/L	0.01	SM 3120	02-Jun-10/O		0.72		
Sodium	mg/L	0.2	SM 3120	02-Jun-10/O	200	3.1		
Potassium	mg/L	0.1	SM 3120	02-Jun-10/O		0.5		
Aluminum	mg/L	0.01	SM 3120	02-Jun-10/O	0.1-0.2	0.04		
Barium	mg/L	0.001	SM 3120	02-Jun-10/O	1.0	0.033		
Boron	mg/L	0.005	SM 3120	02-Jun-10/O	5.0	< 0.005		
Chromium	mg/L	0.002	SM 3120	02-Jun-10/O	0.05	< 0.002		
Copper	mg/L	0.002	SM 3120	02-Jun-10/O	1.0	0.057		

CDWG = Canadian Drinking Water Guidelines

Michael Lawlor

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,P-Peterborough,M-Moncton

Michael Lawlor

Lab Manager

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

C.O.C.: M59361

REPORT No. B10-14858

Report To:

Private - Moncton

Caduceon Environmental Laboratories

150 Lutz Street

Moncton, New Brunswick, E1C 5E9

Tel: 506-855-6472

Fax: 506-855-8294

Attention:

DATE RECEIVED: 01-Jun-10

JOB/PROJECT NO.:

DATE REPORTED: 08-Jun-10

P.O. NUMBER:

SAMPLE MATRIX: Drinking Water

WATERWORKS NO.

			Client I.D.:		919 Route 905, Pollett River, NB			
			Sample I.D.:		B10-14858-1			
			Date Collected:		01-Jun-10			
Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed	CDWG Guideline			
Iron	mg/L	0.005	SM 3120	02-Jun-10/O	0.3	0.017		
Manganese	mg/L	0.001	SM 3120	02-Jun-10/O	0.05	< 0.001		
Silica	mg/L	0.02	SM 3120	02-Jun-10/O		8.49		
Zinc	mg/L	0.005	SM 3120	02-Jun-10/O	5.0	0.023		
Mercury	mg/L	0.00002	SM 3112	03-Jun-10/O	0.001	< 0.00002		
Antimony	mg/L	0.0001	EPA 200.8	03-Jun-10/O	0.006	< 0.0001		
Arsenic	mg/L	0.0001	EPA 200.8	03-Jun-10/O	0.010	< 0.0001		
Cadmium	mg/L	0.00002	EPA 200.8	03-Jun-10/O	0.005	0.00002		
Lead	mg/L	0.00002	EPA 200.8	03-Jun-10/O	0.010	0.00231		
Selenium	mg/L	0.001	EPA 200.8	03-Jun-10/O	0.01	< 0.001		
Uranium	mg/L	0.00005	EPA 200.8	03-Jun-10/O	0.02	< 0.00005		
Anion Sum	meq/L		Calc.	04-Jun-10/O		0.320		
Cation Sum	meq/L		Calc.	04-Jun-10/O		0.313		
% Difference	%		Calc.	04-Jun-10/O		1.11		
Ion Ratio	AS/CS		Calc.	04-Jun-10/O		1.02		
Sodium Adsorption Ratio	-		Calc.	04-Jun-10/O		0.462		
TDS(ion sum calc.)	mg/L		Calc.	04-Jun-10/O	500	18.3		
Conductivity (calc.)	µmho/cm		Calc.	04-Jun-10/O		36.1		
TDS(calc.)/EC(actual)	-		Calc.	04-Jun-10/O		0.491		
EC(calc.)/EC(actual)	-		Calc.	04-Jun-10/O		0.964		
Langelier Index(25°C)	S.I.		Calc.	04-Jun-10/O		-3.67		

1 Bacteria Drinking Water Guideline of 0 = <1 (less than detection) on Caduceon report

CDWG = Canadian Drinking Water Guidelines

Michael Lawlor

M.D.L. = Method Detection Limit

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,P-Peterborough,M-Moncton

Michael Lawlor

Lab Manager

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

Sample ID		70110341	
Date Collected		19-Oct-10	
Parameter	Units	Guideline*	
Total Coliform	cts/100mL	0	< 1
E coli	cts/100mL	0	< 1
Background	cts/100mL		6
pH	pH Units	6.5-8.5 ^a	5.6
Conductivity	µmho/cm		41
Alkalinity (as CaCO ₃)	mg/L		9
Carbonate (as CaCO ₃)	mg/L		< 5
Bicarbonate(as CaCO ₃)	mg/L		9
Turbidity	NTU	1.0	0.94
Fluoride	mg/L	1.5	< 0.1
Nitrite (N)	mg/L	3.2	< 0.1
Nitrate (N)	mg/L	10	0.2
Bromide	mg/L		< 0.4
Chloride	mg/L	250 ^a	2.5
Sulphate	mg/L	500 ^a	3
Hardness (as CaCO ₃)	mg/L	200/500 ^{ab}	8
Calcium	mg/L		2.11
Magnesium	mg/L		0.75
Sodium	mg/L	200 ^a	2.6
Potassium	mg/L		0.5
Aluminum	mg/L	0.2	0.08
Barium	mg/L	1	0.04
Boron	mg/L		< 0.005
Chromium	mg/L	0.05	< 0.002
Copper	mg/L	1.0 ^a	0.076
Iron	mg/L	0.3 ^a	0.052
Manganese	mg/L	0.05 ^a	0.003
Silica	mg/L		8.64
Zinc	mg/L	5.0 ^a	0.037
Antimony	mg/L	0.006	< 0.0001
Arsenic	mg/L	0.010	< 0.0001
Cadmium	mg/L	0.005	< 0.00002
Lead	mg/L	0.01	0.00209
Selenium	mg/L	0.01	< 0.001
Thallium	mg/L		< 0.00005
Uranium	mg/L	0.02	< 0.00005
Anion Sum	meq/L		0.326
Cation Sum	meq/L		0.297
% Difference	%		4.72
Ion Ratio	AS/CS		1.1
Sodium Adsorption Ratio	-		0.394
TDS(ion sum calc.)	mg/L	500 ^a	17.9
Conductivity (calc.)	µmho/cm		34.7
TDS(calc.)/EC(actual)	-		0.435
EC(calc.)/EC(actual)	-		0.843
Langelier Index(25°C)	S.I.		-4.45

*Maximum Acceptable Concentration (MAC) as determined by Health Canada's Guidelines for Canadian Drinking Water Quality, revised 2008

^a Aesthetic Objective (AO) only

For Chloride, Sulfate, and Hardness: < 500 mg/L considered "good", > 500 mg/L considered "unacceptable"

Report ID: 124999-MB-DWA
Report Date: 08-Sep-11

Petitcodiac Watershed Alliance
P.O. Box 23046
Moncton, NB E1A 6S8

Attention: [REDACTED]

150 Lutz St
Moncton NB
Canada E1C 5E9
Tel: 506.855.6472
Fax: 506.855.8294
www.rpc.ca

Report Instructions:
Mail Original

Microbiological Examination of Water

RPC Sample ID:	124999-1
Sampling Site:	919 Rte 905, Pollett River
Date and Time Sampled:	07-Sep-2011 10:00 AM
Date Received by RPC:	07-Sep-2011
Date Analyzed:	07-Sep-2011
Analyses	
Total Coliforms (MB 02)	cfu/100mL 22
E. coli (MB 02)	cfu/100mL 0
Background (MB 02)	cfu/100mL > 200

This report relates only to sample(s) and information provided to the laboratory.

Results:

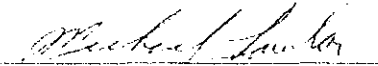
Particular to domestic wells, Health Canada and the New Brunswick Department of Health and Wellness interpret the Guidelines for Canadian Drinking Water Quality as follows:

Semi-public and Private Drinking Water Supply Systems

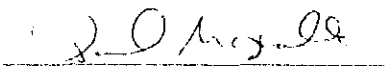
1. No sample should contain E. coli. The presence of E. coli indicates faecal contamination and the possible presence of enteric pathogens; therefore the water is unsafe to drink.
2. No sample should contain total coliform bacteria. In non-disinfected well water, the presence of total coliform bacteria in the absence of E. coli indicates the well is prone to surface water infiltration and therefore at risk of faecal contamination. In disinfected water systems, the presence of total coliform bacteria indicates a failure in the disinfection process.

In accordance with the above, this water sample, as submitted to RPC, has been found to be of **unacceptable** microbiological quality based on Guidelines for Canadian Drinking Water Quality.

If you require further information or assistance, please contact RPC's Microbiology Laboratory at 506.855.6472.


Michael Lawlor
Lab Supervisor
Moncton Laboratory

Page 1 of 1


Paul Mazerolle
Microbiology Technician
Moncton Laboratory

Report ID: 124999-IAS
Report Date: 19-Sep-11
Date Received: 07-Sep-11

for
Petitcodiac Watershed Alliance
P.O. Box 23046
Moncton, NB E1A 6S8

921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: XXXXXXXXXX
Project #: Not Available
Location: XXXXXXXXXX Pollett River


Analysis of Potable Water

RPC Sample ID:					124999-1
Client Sample ID:					Water Sample
Date Sampled:					7-Sep-11
Analytes	Units	RL	MAC	AO	
Alkalinity (as CaCO ₃)	mg/L	2	-	-	7
Chloride	mg/L	0.5	-	250	3.9
Colour	TCU	5	-	15	< 5
Conductivity	µS/cm	0.1	-	-	40.0
Fluoride	mg/L	0.05	1.5	-	< 0.05
Nitrate + Nitrite (as N)	mg/L	0.05	10	-	0.17
pH	units	-	-	6.5 - 8.5	6.4
Phosphorus	mg/L	0.02	-	-	< 0.02
r-Silica (as SiO ₂)	mg/L	0.1	-	-	8.3
Sulfate	mg/L	1	-	500	4
Total Organic Carbon	mg/L	0.5	-	-	< 0.5
Turbidity	NTU	0.1	-	5	2.8
Calculated Parameters					
Hardness (as CaCO ₃)	mg/L	0.2	-	-	8.7
TDS (calc)	mg/L	-	-	500	29
Saturation pH (5°C)	units	-	-	-	10.3
Langelier Index (5°C)	-	-	-	-	-3.94

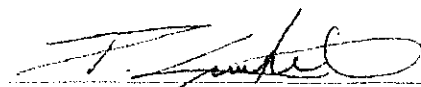
This report relates only to the sample(s) and information provided to the laboratory.

RL = Reporting Limit; MAC = Maximum Acceptable Concentration; AO = Aesthetic Objective

Guidelines are from Guidelines for Canadian Drinking Water Quality (Dec 2010).



A. Ross Kean, M.Sc.
Department Head
Inorganic Analytical Chemistry



Peter Crowhurst, B.Sc., C.Chem
Analytical Chemist
Inorganic Analytical Chemistry

Report ID: 124999-IAS
Report Date: 19-Sep-11
Date Received: 07-Sep-11

for
Petitcodiac Watershed Alliance
P.O. Box 23046
Moncton, NB E1A 6S8

921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: [REDACTED]

Project #: Not Available

Location: [REDACTED] Pollett River

Analysis of Metals in Potable Water

RPC Sample ID:					124999-1
Client Sample ID:					Water Sample
Date Sampled:					7-Sep-11
Analytes	Units	RL	MAC	AO	
Aluminum	mg/L	0.001	-	-	0.029
Antimony	mg/L	0.0001	0.006	-	< 0.0001
Arsenic	mg/L	0.001	0.01	-	< 0.001
Barium	mg/L	0.001	1	-	0.041
Boron	mg/L	0.001	5	-	0.004
Cadmium	mg/L	0.00001	0.005	-	0.00001
Calcium	mg/L	0.05	-	-	2.16
Chromium	mg/L	0.001	0.05	-	< 0.001
Copper	mg/L	0.001	-	1	0.048
Iron	mg/L	0.02	-	0.3	0.71
Lead	mg/L	0.0001	0.01	-	0.0066
Lithium	mg/L	0.0001	-	-	0.0006
Magnesium	mg/L	0.01	-	-	0.81
Manganese	mg/L	0.001	-	0.05	0.002
Molybdenum	mg/L	0.0001	-	-	0.0001
Nickel	mg/L	0.001	-	-	< 0.001
Potassium	mg/L	0.02	-	-	0.50
Selenium	mg/L	0.001	0.01	-	< 0.001
Sodium	mg/L	0.05	-	200	3.33
Strontium	mg/L	0.001	-	-	0.014
Thallium	mg/L	0.0001	-	-	< 0.0001
Uranium	mg/L	0.0001	0.02	-	< 0.0001
Vanadium	mg/L	0.001	-	-	< 0.001
Zinc	mg/L	0.001	-	5	0.044

Report ID: 124999-IAS
Report Date: 19-Sep-11
Date Received: 07-Sep-11

Environmental Laboratory
for
Petitcodiac Watershed Alliance
P.O. Box 23046
Moncton, NB E1A 6S8

921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Methods

<u>Analyte</u>	<u>RPC SOP #</u>	<u>Method Reference</u>	<u>Method Principle</u>
pH	4.M03	APHA 4500-H ⁺ B	pH Electrode - Electrometric
Alkalinity (as CaCO ₃)	4.M43	EPA 310.2	Methyl Orange Colourimetry
Chloride	4.M44	APHA 4500-CL E	Ferricyanide Colourimetry
Fluoride	4.M30	APHA 4500-F- D	SPADNS Colourimetry
Sulfate	4.M45	APHA 4500-SO ₄ E	Turbidimetry
Nitrate + Nitrite (as N)	4.M48	APHA 4500-NO ₃ H	Hydrazine Red., Derivitization, Colourimetry
r-Silica (as SiO ₂)	4.M46	APHA 4500-SI F	Heteropoly Blue Colourimetry
Carbon - Total Organic	4.M38	APHA 5310 C	UV-Persulfate Digestion, NDIR Detection
Turbidity	4.M06	APHA 2130 B	Nephelometry
Colour	4.M51	APHA 2020 Color (A,C)	Single Wavelength Spectrophotometry
Conductivity	4.M04	APHA 2510 B	Conductivity Meter, Pt Electrode
Trace Metals	4.M01 & 4.M29	EPA 200.8 or EPA 200.7	ICP-MS or ICP-ES

Radon Information Sheet – Long Term (1 – 12 month) Test

Please find enclosed a Radon Test Kit. The kit contains one Long Term Sample Electret. This test should be taken over a 1 – 12 month period. Closed house conditions are not required for a long term test. **The test should be started as soon as possible after receipt of the test kit in order to ensure accurate results.**

Building Conditions During the Test:

1. A location must be selected where the sampling canister will not be disturbed. The sample should be collected in the normal occupancy area of the lowest lived in level of the house (an area occupied for more than 4 hours per day). It should not be collected in a bathroom, kitchen, laundry room, near sump pumps, or in crawl spaces.
2. Do not place the canister near drafts such as HVAC systems or windows and doors. The canister should not be placed in direct sunlight or near excessive heat. Do not place on top of electrically powered equipment or appliances.
3. The canister should be hung at least 50 cm (20 inches) from the ceiling or placed by an interior wall at a height of 0.8 meters to 2 meters (3 to 6.5 feet) from the floor and at least 20 cm (8 inches) from other objects. It should be at least 40 cm (16 inches) away from an interior wall and 50 cm (20 inches) away from an exterior wall.

Deployment of Device:

1. Remove the Long Term Sample Electret from the zip lock bag. **This device is ready for use.** Do not separate the two parts of the device, as this will invalidate the test.
2. Place the Long Term Sample Electret in the selected location.
3. Record the location, date and time on the Deployment Data Form.
4. To terminate the test, replace the Long Term Sample Electret in the zip lock bag. Record the date and time that the test was terminated on the Deployment Data Form.
5. **Return the Radon kit to RPC with the deployment information as soon as possible.**

If you have any questions regarding the kit please contact:

Karla McLellan @ 506-452-1219 / Thelma Green @ 506-452-0586

rpc

Air Quality Services Laboratory
921 College Hill Road
Fredericton, NB E3B 6Z9
www.rpc.ca

CERTIFICATE OF ANALYSIS

for



rpc

921 College Hill Rd
Fredericton NB
Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.1395
www.rpc.ca

Sample Number: 114564-1
Date Received: 25-Jan-11

Radon Analysis

E-PERM Electret Ion Chambers were used for radon screening measurements.
The results can be found in Table 1.

Table 1: Radon Results

Pollett River NB

Sample Identification	Test Duration	Radon (Bq/m ³)
Multi-purpose room in basement	93 days	1,183

This report relates only to the sample and information provided to the laboratory.

Discussion:

Radon is a radioactive gas found naturally in the environment. It is produced by the decay of uranium found in soil, rock or water. Radon is invisible, odourless and tasteless, but emits ionizing radiation, which can cause cancer. If a building is built on bedrock or soil that contains uranium, radon gas can be released into the building through cracks in the foundation or floor.

Health Canada's guideline for radon states that remedial measures should be undertaken in a dwelling whenever the average annual radon concentration exceeds 200 Bq/m³ in the normal occupancy area.

Based on the above analysis, the submitted sample DOES NOT MEET the Health Canada guideline.

Recommendations:

Health Canada recommends the following to reduce your risk if your radon test is above the guideline action limit of 200 Bq/m³:

1. Increase the ventilation in the basement to allow an exchange of air.
2. Seal all cracks and openings in foundation walls and floors, and around pipes and drains.
3. Paint basement floors and foundation walls with two coats of paint and a sealant.
4. Ventilate the basement sub-flooring by installing a small pump to draw the radon from below the concrete slab to the outside before it can enter your home.
5. Renovate existing basement floors, particularly earth floors.

Thelma Green
Manager

Darren Tarr
Analyst

NEHA NRPP 101193 AL
 NRSB ARL0017

 EPA Method #402-R-92-004
 Alpha Track
 NEHA Device Code 8205
 NRSB Device Code 12001

Laboratory Report For
Property Tested


Pollett River NB [REDACTED] CANADA



Pollett River NB [REDACTED] CANADA

Log Number	Device Number	Area Tested	Result (Bq/m3)
1256772	2103858	Basement Multi-Purpose Room	444

Radon test results are above Canadian action level of 200 Bq/m3. Remedial measures should be undertaken in a dwelling whenever the average annual radon concentration exceeds 200 Bq/m3 in the normal occupancy area. If the property tested uses water from a private well, you may wish to consider testing for radon in water.

Comment: Health Canada doesn't recommend a duration less than 1 month, minimum of 3 months recommended & 12 months optimum. Year closed assumed as is. Accurate results are dependent on the correct information. Please call the lab if this is incorrect.

Distributed By: New Brunswick Lung Association

Test Began: 2/10/2011

Date Received: 5/24/2011

Test Ended: 5/10/2011

Date Analyzed: 6/2/2011

Test Exposure Duration 89.0 Days

Date Reported: 6/3/2011

In 2007, Health Canada announced a revised guideline for radon in indoor air. Based on new research, federal, provincial and territorial governments have worked together to develop a new guideline to help protect Canadians from the health risks associated with radon. The new guideline is 200 Bq/m3, lowered from the previous guideline of 800 Bq/m3. Health Canada recommends that you take action to reduce the level of radon in your home if the level is above the guideline of 200 Bq/m3. You can find methods for lowering radon levels in the booklet, Radon-A Guide for Canadian Homeowners, by calling 1-800-668-2642 or visiting the Canada Mortgage and Housing website and search Radon.

 Report Reviewed By: [Signature]

 Report Approved By: [Signature]
Disclaimer:

Carolyn K. Allen President, AccuStar Labs

The uncertainty of this radon measurement is +/- 15 %. Factors contributing to uncertainty include, statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques, and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.



Santé
Canada

Health
Canada

*Votre santé et votre
sécurité... notre priorité.*

*Your health and
safety... our priority.*



La présente fiche de renseignements offre des renseignements sur le radon aux propriétaires de maison. Elle explique brièvement les risques possibles pour votre santé, comment le radon s'infiltré dans votre maison, comment vous pouvez détecter la concentration de radon

dans votre maison et ce que vous devez faire si le niveau est au-delà de la concentration recommandée par la ligne directrice canadienne.

RADON

ce que vous devez savoir

Canada

Sept. 24, 2011

To the attention of Mr. Maxime Daigle:

As per our common interests in the detriment to our health and environment being caused by the evasiveness of the New Brunswick conservative government; we would appreciate it, if you would contact anyone that you deem legally necessary to assist us in proving to the government that natural gas exploration (anywhere) is unsafe. You may present all of our testing results, photos and correspondence both written and verbal in reference to us and our premises [REDACTED] (3.5Km from the Green Road sites B41 & G41).

In November 2010 I had written to the following members re my health concerns:
cc: Hon. Michael Olskamp, Margaret Ann Blaney, Bruce Northey, Rob Moore & Sherry Wilson - attached are two replies. David Alward received the main letter.

In May 2011 I wrote again to Margaret Ann Blaney and Sherry Wilson... No response.

Attached are the only responses as mentioned basically "matter-of-fact" letters.

God bless you and your associates for taking up this challenge to present the truth to the people of New Brunswick and for standing up to the corporate form of government in this our province.

Sincerely,
[REDACTED]

Palmetto River H.B.

May 15, 2011

Dear Sherry.

Re Green Road Exploration Site B-41

As a follow-up to my last letter of May 11, 2011 to your party officials. I'm addressing this letter directly to you because you are responsible to respond to our concerns and needs. The Hon. David Alward informed me, through his office by telephone, that Bruce Rowdrip would reply to my letter of Nov. 2010 which he did in a matter of form away in Jan 2011. However, I did not receive any reply from Margaret Ann Blaney, Michael Alcamp or yourself at the time.

Numerous calls to your office have resulted in unavailability or, if we manage to converse, you did not furnish me with any satisfactory response but would suggest I contact various other avenues. In keeping with this, I contacted
① AMEC re water well testing for chemicals - response I'll get back to you. ② Apache re operations and time frames etc. - response - I'll get back to you and the frustration goes on and on. With no return calls.

As you know, Apache's appointee for our area has a personal family situation, which has made it impossible for him to assist us since Nov 2011. Therefore, I once again am turning to you to stand up for us.

We need to know what, if any, regulations are being or have been implemented to safeguard our water and air. We have had dirty (muddy) water appear in our well ^{four times to date} since these operations began. ^{Previously our well was 100%.} The air monitor provided by Apache through HSE had recorded high pollutants at times but, apparently, not over a long enough period to affect the general population. You know that I have Multiple Chemical Sensitivity and short cumulative exposures can be detrimental to my health. This is the reason why we move to this clean area and built an environmentally safe home here fourteen years ago. Surprisingly enough the monitor was removed from our property shortly before the completion of the extraction of the small percentage of fracing fluids and the pervasive flaring of the B-41 gas well.

Although promised by AMEC and provided by Apache the chemicals in well water have not been tested - first the regular naturally occurring properties. At an open house in Elgin in June 2010 - Janet Blackmer of AMEC promised us that they would certainly test for chemicals; but when. We have ultraviolet and reverse osmosis systems on our well water but these will not remove all chemicals. We must know all chemicals in use during these operations.

We have had test done through Doctor's Data in Illinois and our toxic elements have gone from normal to elevated to off the chart since the operations began. This is no coincidence that both of us, taking the same tests under the same circumstances, at the same time have had the same toxic results. Neither is Apache picking up the \$300.00 costs which is also not covered by Medicare.

When we spoke about the terrible condition of our road - Route 905. you agreed that it was terrible and not suitable for all the truck traffic necessary for the operational requirements. You said the government was looking into the road situation. Still, thank you for the new potholes and further broken shoulders and the invisible lines and allowing the trees in the ditches to grow up taller than the power lines. These operations will resume very soon and we need safer roads to handle this 24/7 truck traffic. We need our numerous blind hills and hidden driveways marked with signage. Maybe Apache should pay.

Does Apache or SWN plan to still use local clean drinking water resources for their fracing? Last year we calculated and had verified that 18,336,000 gallons of potable drinking water was trucked to B-41's holding pond.

Explosions have already occurred in Probsquis at barridos and over Pettitodic and Elger. Firemen are hired ^{to} "mon the gate" without the knowledge of what toxic chemicals are in use. How can you guard against what you do not know? How can physicians treat exposures " " " " When a firefighter was asked: what training he had, he said "none - anyway an explosion would first blow a big hole in the ground". Now that's scary!

As I told you before - it appears that our government is just looking into the benefits they can acquire financially without giving any concern for the people - why not look into areas where people have suffered from this type of exploration and where numerous sicknesses and deaths have already occurred.

your counterpart for Albert county, Wayne Atteves has passed my concerns on to Envor Nicholson who once again has not responded to my question concerning the use of over 300 unknown chemicals being poured into our precious earth.

Why are truck loads of chemical traversing our provincial highways not marked as toxic and not escorted?

Don't let this continue to proceed as did the Bellefleur Smelter Project and kill off hundreds of innocent people - many of my relatives. All under the fully knowing watchful eye of the N.B. Government for over 40 years. Even as a young girl, I remember the officials from their townships being moved back to Quebec and the homes on two of the sites bulldozed into the ground because of the pollution and the government still said it was safe - I remember also the beautiful farms and prosperous fishing area that is now covered with black vegetationless so-called soil. This is not a myth. See for yourself. Also, be sure to take time to watch "Gasland" you see that that's not a myth either.

This is a powder keg of illness and destruction preparing to be unleashed upon the citizens of our beautiful province. What we need is support for our hungry farmers who will heal the health care system, beautify our province and make it stand head and shoulders above the gas producers greedy top line.

I am exhausted trying to get answers to these questions and have sought the assistance of other ministers who I feel

confident will assist in moving my quest forward. I have reached out to Chris Collins and he has my full permission to follow up my concerns in whatever way necessary.

As you know our home is for sale because of what we have gone through over the last few years - we would dearly love to stay but our health indicates otherwise. There are also ten other homes for sale from Elgin to Petterboro - unusual isn't it. We are serious and have spent thousands of dollars to treat my illness and insurance and medicare do not have coverage to fund any of my treatments. Now here we are being uprooted without the N.B. Government even taking a second look at previously endangered persons and the environment in areas where gas wells have proven detrimental.

This is not exploration - it is exploitation!

Sincerely


CC: Victor Landreau MHA
Claude Williams MHA
Chris Collins MHA
Ryan Rorden MHA



November 29, 2010

[REDACTED]
Pollatt River NB [REDACTED]


Dear [REDACTED]

On behalf of Premier Alward, I would like to acknowledge receipt of your letter dated November 10, 2010 regarding natural gas exploration in New Brunswick.

As this is a matter which falls directly under the jurisdiction of the Minister of Natural Resources, the Honourable Bruce Northrup will be responding directly to your concerns on the above.

Thank you for taking the time to write to the Premier.

Sincerely,


Linda Landry-Guimond
Correspondence Manager

3-1-10 11:50 AM [REDACTED]





January 6, 2011

[REDACTED]
Pollatt River, NB [REDACTED]

Dear [REDACTED]

I wish to reply to your letter dated November 10, 2010. Please accept my apologies for the delay in responding.

In its platform *Putting New Brunswick First*, this government pledged its support for the responsible expansion of the natural gas sector while ensuring the safety and security of homeowners and our groundwater supply. As Minister, let me assure you this is a balance I am committed to seeing.

As part of our platform, we pledged that homeowners need to be better consulted concerning the exploration of oil and natural gas. Industry members have followed our lead which is encouraging. I have directed my department staff to hold additional open houses in the coming weeks. This government is open and transparent and believes in citizen engagement.

New Brunswick has strong and effective legislation, regulations and monitoring systems in place to ensure oil and natural gas exploration and development takes place in an environmentally responsible manner.

Today, there is enormous potential for growth of the oil and natural gas sector in New Brunswick. We want to make sure our regulatory framework can accommodate this growth so we are re-examining legislation and regulations governing the exploration and extraction of oil and natural gas as well as minerals.

This review will be an ongoing process that will allow us to incorporate new technology and best practices.

.../2

Minister/Ministre
Natural Resources/Ressources naturelles

P.O. Box/C.P. 3660 Fredericton, New Brunswick/Nouveau-Brunswick E2B 5H1 Canada Tel./Tél. (506) 453-2510 Fax/Téléc. (506) 453-1155

www.gnb.ca



January 6, 2011

Page 2

I wish to point out that over the past ten years approximately 65 oil and natural gas wells have been drilled in this province. Roughly two-thirds of them involved the use of hydraulic fracturing so the practice is not new in New Brunswick.

New Brunswick is the first province in Canada to initiate an Environmental Impact Assessment at the exploration stage.

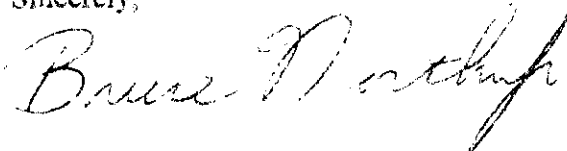
Based on our due diligence and the confidence we have in our legislation and the monitoring of exploration and development, we can see no reason for a moratorium at this time.

A moratorium would result in lost jobs in New Brunswick while taking at least \$200 hundred million dollars out of the economy that companies have committed to spend on exploration over the next three years. Given the province's financial situation, these revenues are critically important to help our government provide essential services such as health, education, senior care and transportation.

The future development of this sector has the capacity of delivering significant economic opportunities for our province. We will continue to be vigilant so that projects are undertaken in a safe and environmentally responsible manner. This is in the interest of property owners, industry and government.

Thank you for expressing your views.

Sincerely,

A handwritten signature in cursive script that reads "Bruce Northrup". The signature is written in dark ink and is positioned below the word "Sincerely,".

Bruce Northrup
Minister

cc: Hon. David Alward, Premier



last page of
Letter sent
to David Alward
& named MTHs



I moved to this area nearly fourteen years ago seeking a clean environment following a diagnosis of Multiple Chemical Sensitivity and Environmental Illness caused by diesel poisoning at work. Because of my own personal research I am well aware of ^{what} causes such illness and am constantly taking all necessary precautions. I do not want any of these companies toxic soups poisoning myself and my neighbours. I am the only surviving member of my family to live through the Becladune mess that was supposed to be very safe.

New Brunswick needs a process in place to prevent chemical poisoning before any more drilling/fracturing exploration takes place - right now we desperately need a moratorium. As well, please stop mining from slanting anymore of our valuable air filters... we need them now more than ever.

Being a new government I realize that your challenges are vast and monumental but I beg you, on behalf of all New Brunswickers, please save our beautiful province - our homeland.

Thank you,

Sincerely,



CC: Honorable Michael Olscamp - - - 453-2662
Honorable Margaret-Ann Blaney - - - 444-5136 environment
Honorable Bruce Northrup - - - 453-2510 Nat. Resources - Constitution (Lancaster)
Honorable Rob Moore
Honorable Madeline Dube - - - 457-1480
Honorable Sherry Wilson
Stephanie Merrill - Conservation Council of New Brunswick

David Alward 526-~~458-5665~~
453-3451

Dear Mr. Daigle:

Thank you for your email and for the package of information you sent to us.

In relation to your first question – in regards to which chemicals can be used in hydraulic fracturing in the province – the approvals given when an application is made to frac a well is done on a case by case basis by the Department of Environment. Therefore, as you know, when a company tells government what its “recipe” is – the department judges whether they can be used or not.

There are a number of other issues we have looked at in relation to your information. Of particular interest to us was your interpretation of information on the number of wells which could be drilled in the province, royalties, and how much water would be needed to frac those wells.

There have been two video presentations posted fairly recently on our web site. They are under “video presentations” and one in particular is about potential economic benefits and another, on water, will be posted soon.

Government has always been very careful in saying “could” in discussion with estimates. And you will see that government has rarely put a potential figure on royalties. Industry has though.

The simple fact is that exploration is ongoing, and we have no way of knowing how much gas is in the shale, and can it be taken out commercially. Because these are still unknowns – we have been very upfront in our presentations etc. that when we have studied economic benefits etc. elsewhere – we have to take into account what the socio-economic conditions are in those areas and such things as how close are they to equipment and employees in large oil and gas industries, etc.

Also of note, government is currently putting together a new royalty plan, which will be shared and input received from the public. So estimating royalties until that plan is fully developed is difficult to do with any kind of certainty.

Government has also been very clear, that if a commercial industry does begin here several years down the road, the amount of water, which will need to be treated, will be more than what can be handled at the Debert facility in Nova Scotia, and therefore a new facility would likely have to be constructed in order to handle the water from increased activity.

One last point, you have included in your package a series of copies of medical tests, as well as water test results. We will not comment on any of this information and copies of this paperwork will be returned to you.

Thank you once again for your continued interest in this file.

Sincerely,

Marc Belliveau

Director of Communications
Natural Gas Group